

ABSTRACT

The invention refers to batch casting, semi-continuous casting or continuous casting and rolling of copper, providing the addition of lead or refining the melt copper or the melt microalloyed copper to a lead content equal to or higher than 200 weight ppm. This minimizes the number of pores and defects, decreasing the number of incidences or breaks during casting and in service. However, it does not reduce the electrical conductivity. The addition of lead allows the cast and roll of copper microalloyed with elements such as S, Se, As, Sb, Bi, Sn, Zn, Ni, Fe, Ag and Te, in concentrations of the order of tens of weight ppm. The copper microalloys manufactured in this way have annealing temperatures and strain strengths higher than those obtained from the equivalent tough-pitch copper or the equivalent microalloyed copper with lead content lower than 15-20 weight ppm.

This patent also includes a heat ^{treatment of} ~~treatment~~ a 550-650°C for 5-600s that, when applied to some compositions of the microalloys resulting of the related casting method gives similar values of annealing temperature, half-softening temperature, recrystallization temperature and strain-strength as tough-pitch copper. In addition, electrical conductivity is increased to 101.5%IACS or even higher.